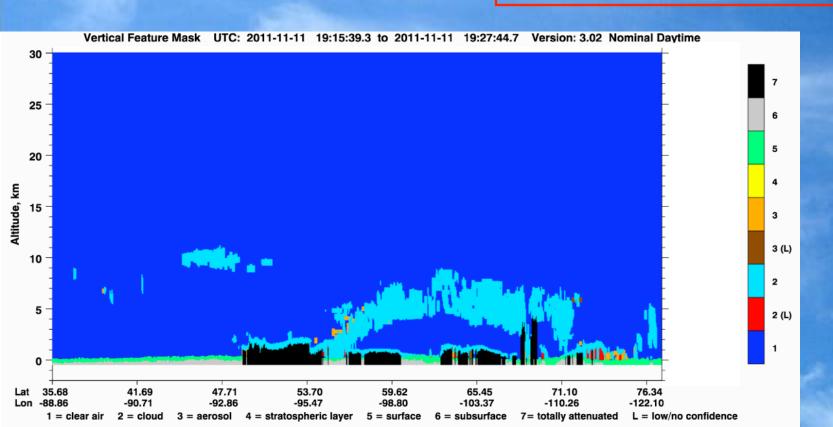


CALIPSO Data: A Tutorial

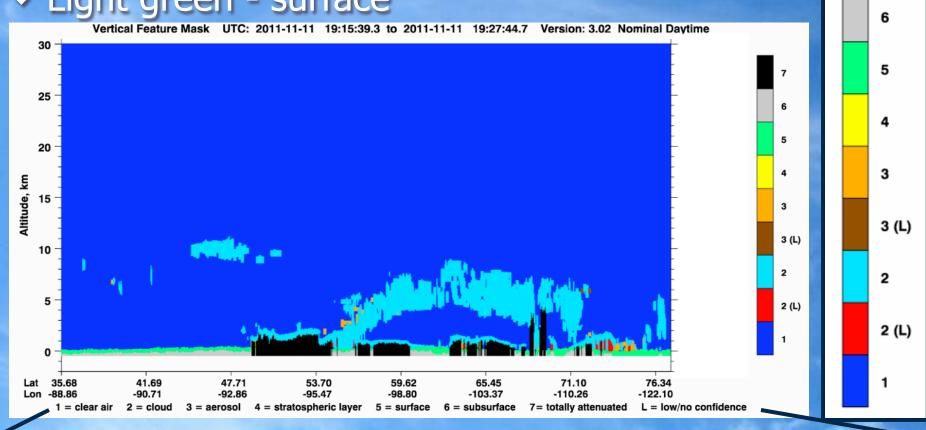
The CERES S'COOL Project

- The graphs are labeled with latitude and longitude (x-axis)
- Altitude (y axis)

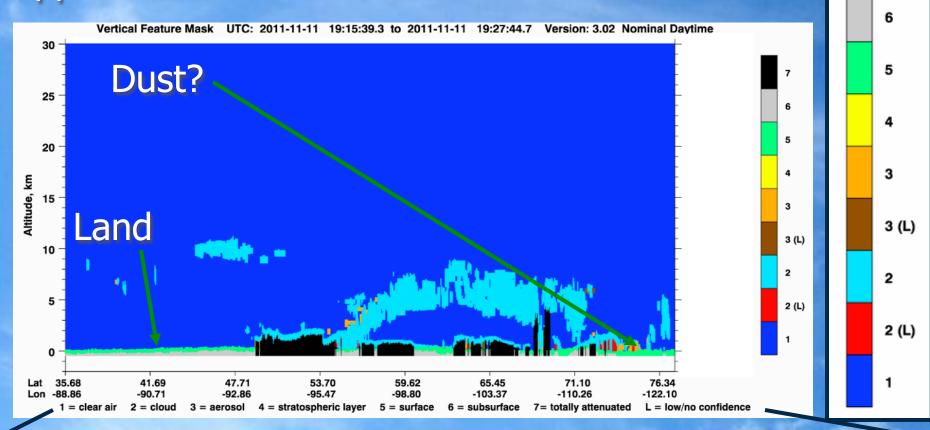
x = distance along orbit track

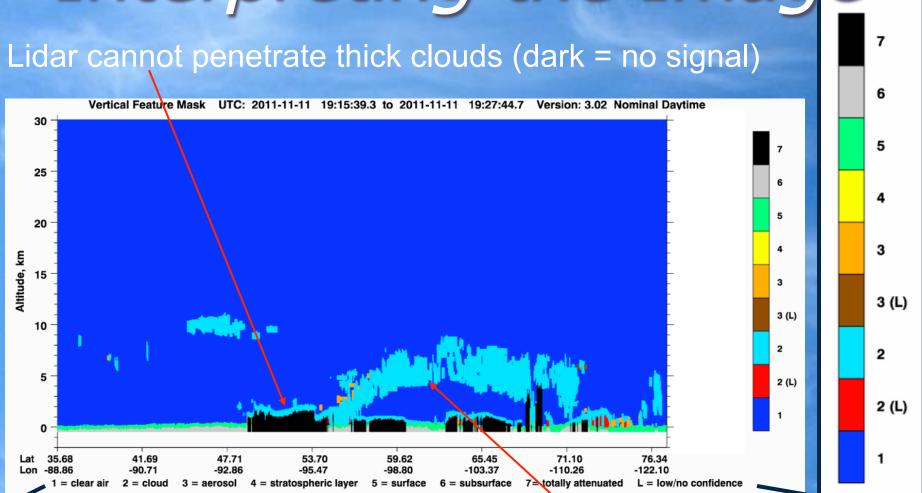


- Medium blue clear sky
- Light blue clouds
- Light green surface



In some images, dust layers (brown) also appear





1 = clear air 2 = cloud 3 = aerosol 4 = stratospheric layer 5 = surface 6 = subsurface 7= totally attenuated L = low/no confidence

 The Vertical Feature Mask map easily helps you see the clouds and aerosols Vertical Feature Mask UTC: 2011-11-11 19:15:39.3 to 2011-11-11 19:27:44.7 30 25 20 Altitude, km 3 (L) 10 2 (L) 35.68 41.69 47.71 53.70 59.62 65.45 71.10 76.34 1 1 = clear air 4 = stratospheric laver 5 = surface 6 = subsurface 7= totally attenuated L = low/no confidence

Tips

 Remember that CALIPSO only looks at a small strip of clouds directly below it, so your observations should match the best on days when the satellite passes almost directly overhead. You can determine these days from the detailed S'COOL overpass schedule you received through e-mail.

Overpass Schedule

Now you can directly request CALIPSO overpass times from the S'COOL site: http://science-edu.larc.nasa.gov/SCOOL/ForParticipants.html



Français | Español

S'COOL Satellite Overpass

The Terra overpass is in the morning, generally between 10 am and noverpass are in the afternoon, generally between 1 and 3 pm. The Closliver of the Earth on each orbit, so there may be as many as 16 days

Sample Overpass Information.

Login:		Password:
Satellite: CERES of	n Aqua 💠	
Daylig CERES of CERES of	in Effect for Perio	
Do yo CALIPSO CloudSat	o Overpass Sche	dules?
Observation Peri	od:	

Note: We suggest that your start date must be greater than today's date. F than 1 - 2 months ahead of time. There are changes in the orbit that might

CALIPSO

S'COOL Overpass Schedule

School Name: Atmospheric Science Data Center/S'COOL

Teacher Name: SCOOL Team

Latitude: 37.122222 Longitude: -76.346111

Time Zone: -5

City: Anytown State: None Country: USA E-mail Address 1: tina.m.rogerson@nasa.gov

E-mail Address 2:

NOTE: Please review the e-mail addresses identified above. If the addresses are not correct, send us your old e-mail address along with the correct e-mail addresses. This will help us update your user profile information correctly. Thank You.

Items Entered From Overpass Request Form:

CERES on Spacecraft: CALIPSO Daylight Saving Flag: off

UT Offset: -5

Start Date (month-day-year): 01-05-2012 End Date (month-day-year): 01-12-2012

An Overpass Schedule Is Being Sent To You Via E-mail. The Satellite Position Information Will Also Appear In This E-mail.

Daytime Passes:

(UT = Universal Time) Local Time = UT + (-5)

Exploring Further

 See the following slides if you would like to explore other CALIPSO data, beyond the specific image that corresponds to your observation.

Getting There

- Go to http://www-calipso.larc.nasa.gov/products/
- Click on LIDAR Browse Images located in the left navigation bar
- Once you land on CALIPSO LIDAR BROWSE IMAGES (PRODUCTION) page, scroll to the bottom to SELECT DATA RELEASE VERSION and click the GO button

Getting There

 Then scroll down to the calendar, and click on the date you need data from

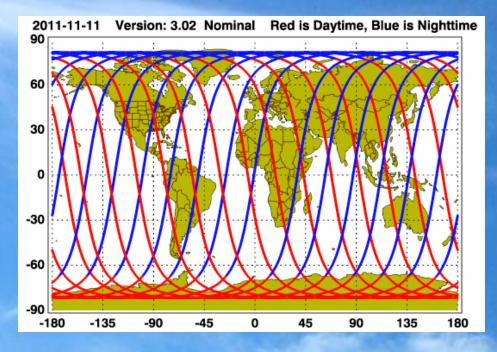
Satellite data lags ground data, so you may have to wait a couple days

Days available are highlighted in blue. If you don't see the day you want, try a different version

		011	il 20	Apr			2011				March 20				ry 2011				Februar			January 2011						
F S	F	Т	W	T	М	S	s	F	Т	T	W	Т	M	s	s	F	Т	W	Т	М	S	S	F	Т	W	Т	М	S
1 2	1						5	4	3	3	2	1			5	4	3	2	1			1						
8 9		7	6	5		3	12		_		_	8	7	6			-		8	7	6	8		6	5	4	_	2
15 16			-			10		_				15				-		16			-		14		-		10	_
22 23							26	25		_		22			26	25	24	23	22								17	
29 30	29	28	27	26	25	24			1	31	30	29	28	27						28	27	29	28	27	26	25	24	
																											31	30
	1	201	ıst :	ugu	Α				1	011	y 20	Jul					011	e 2	Jun					11	y 20	Ma		
FS	F	Т	w	Т	М	S	S	F	Т	T	w	Т	М	S	S	F	Т	W	Т	М	S	S	F	Т	w	т	М	S
5 6	5	4	3	2	1		2	1							4	3	2	1				7	6	5	4	3	2	1
12 13			10	_	8	7	9	8	7		6	5	4	3	11	10	_	_	7	_	5		13				_	8
19 20		-	-	-	-			_			13	-	11	10			16	-		-					-		16	
26 27	26	25								_		19			25	24		22				28	27	26	25		23	
			31	30	29	28	30	29	8 2	28	27	26	25	24			30	29	28	27	26					31	30	29
														31														
1)11	r 20	nbe	cen	De			1	201	r 2	nbe	ven	No			1	201	ber	cto	0			11	r 20	nbe	oten	Sep	
F S	F	Т	W	Т	М	S	s	F	Т	T	W	Т	M	s	S	F	Т	w	Т	М	S	S	F	Т	W	т	М	s
2 3	2	-1					5	4	3	3	2	-1			1							3	2	1				
9 10	9	8	7	6	5	4	12	11	0 1	10	9	8	7	6	8	7	6	5	4	_	2		_	_	•	_	_	4
16 17	16	15	14	13	12	11	19	18	7 1	17	16	15	14	13						-	9							
23 24	23	22	21	20	19	18	26	25	4 2	24	23	22	21	20				-	-		-	24						
30 31	30	29	28	27	26	25					30	29	28	27	29	28	27	26	25				30	29	28	27	26	25
																				31	30							
2 2 3	2 16 23	1 8 15 22	7 14 21	6 13 20	5 12	4 11 18	5 12 19	F 4 11	3 0 1	3 10	9 16 23	1 8 15	7 14 21	6 13 20	1 8 15 22	7 14 21	6 13 20	W	4 11 18	3 10 17 24	2 9 16	3 10 17	F 2 9 16 23	1 8 15 22	7 14 21	6 13 20	М	4 11 18

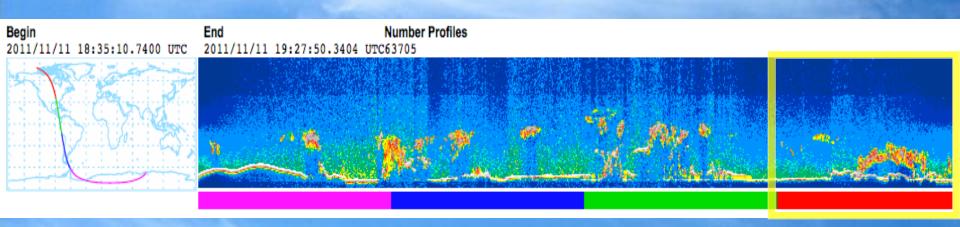
Satellite Tracks

- If you scroll down, you should see a picture of the world with many colored lines representing the path of CALIPSO
- But the tracks you actually want are further down...



Satellite Tracks

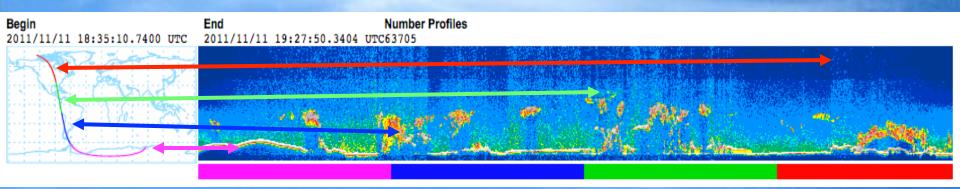
 ...here, where the whole track has been divided into smaller sections (click on the specific LIDAR image above the different colors to investigate further)



In this case, the track passes over the Midwest

Location Finding

 Each differently colored part of the track corresponds to a different group of LIDAR images, as shown by the arrows



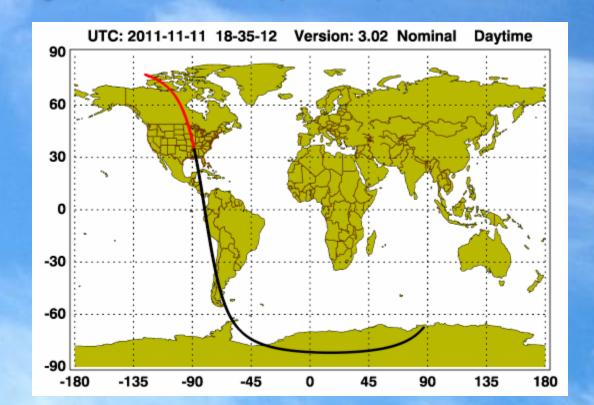
For example, only the red and a little bit of the green sections cross the Midwest

The CALIPSO orbit track

Black line: Segment of the CALIPSO orbit track

November 11th, 2011

Red segment: portion of CALIPSO orbit track we will focus on here Begins at 18:35:12 UTC (1:35:12 pm, Eastern Standard Time in US)



x = longitudey = latitude



National Aeronautics and Space Administration

Langley Research Center

Hampton, VA 23681

www.nasa.gov